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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,597	12/08/2000	Edgar B. Cahoon	BB1413 US NA	2801

23906 7590 01/16/2004

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EXAMINER

MCELWAIN, ELIZABETH F

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,597

Applicant(s)

CAHOON ET AL.

Examiner

Elizabeth F. McElwain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-31 and 34-45 is/are rejected.
- 7) ☐ Claim(s) 32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The amendment filed July 2, 2003 has been entered.

Claim 34 has been newly amended.

Claims 27-45 are pending and are examined on the merits.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Any rejection that is not repeated has been withdrawn.

Claim Rejections - 35 USC § 112

2. Claims 27-45 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the delta-4-16:0 ACP desaturase of SEQ ID NO: 2 encoded by SEQ ID NO: 1, does not reasonably provide enablement for any delta-4-16:0 ACP desaturase having at least 75% sequence identity to said sequences. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. While applicants have established that ehhlc.pk002.f22 is represented by SEQ ID NO:1 and has been shown in Example 8 to have delta-4-16:0 ACP desaturase, the specification does not provide any other sequences that have at least 75% identity to SEQ ID NO: 2 that have delta-4-16:0 ACP desaturase activity. For the reasons set forth in the last office action regarding the unpredictability of homologous sequences having a particular activity, it is highly unpredictable that a sequence that shares some sequence similarity a nucleic acid encoding SEQ ID NO: 2 will also encode a protein having delta-4-16:0 ACP desaturase activity. Thus, it would require undue experimentation to make and/or use the invention, as broadly claimed.

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3. Applicant's arguments filed July 2, 2003 have been fully considered but they are not persuasive. Applicants argue that the specification provides evidence that SEQ ID NO: 2 encodes a delta-4-16:0 ACP desaturase, and therefore the claims are enabled.

The Examiner maintains that the rejection is proper, since the specification does not provide support for the invention as broadly claimed.

Claim Rejections - 35 USC § 102

4. Claims 27, 34 and 36-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Cahoon et al (PNAS 89: 11184-11188, 1992), as stated in the last office action.

5. Applicants' arguments filed July 2, 2003 have been fully considered but they are not persuasive. Applicants assert that the rejection is improper given that a Clustal alignment of SEQ ID NO: 2 with the sequence taught by Cahoon et al indicates 73.8% identity, which is less than the claimed "at least 75%".

6. The Examiner maintains that the rejection is proper given that the percent identity by Clustal alignment will depend upon the parameters used in the calculation.

7. No claims are allowed.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until

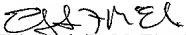
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after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.


Elizabeth F. McElwain
Ph.D. Level Examiner
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EFM